

STUDY OF COMPARISON OF MODE OF DELIVERIES AND MATERNAL OUTCOME IN TERM PROM PREGNANCY

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ABSTRACT

Background: Premature rupture of membranes is the most challenging obstetric dilemma which occurs even in low-risk pregnancies and can convert a traditional pregnancy into a high-risk pregnancy. This study aims to determine fetomaternal outcome, especially in the context of developing countries to help in formulating intervention strategies.

Methods: This study is a hospital based prospective study conducted on pregnant woman at term pregnancy (37-42 wks) presenting with PROM admitted in labour room in SHKBMC of Jhalawar Medical College, Jhalawar.

Results: 42.50% cases delivered by LSCS and 57.50% cases were delivered by normal vaginal delivery. 79 patients (49.38%) delivered babies whose birth weight was between 2-2.5 kg 54 patients (33.75%) and 27 patients (16.88%) delivered babies of >2.5 kg and <2.0 kg birth weights respectively. No maternal complications were seen in 129 cases (80.63%) of PROM. Chorioamnionitis (8.13%) was the most common maternal complication followed by puerperal pyrexia (5.63%) and abruption each contributing to 3.75%. babies born to 38 mothers had NICU admission. Almost 76.25% of the newborn had no complications. 13.13% suffered from respiratory distress syndrome, 6.25% had septicemia, 3.75% suffered from septicemia and 2.50% had intraventricular hemorrhage. Mean APGAR score at 1 min was 7.56±1.02 and at 5 min. was 8.50±1.13. Neonatal mortality was 5.63%.

Conclusion: In the present study we concluded that maternal morbidity and neonatal morbidity was associated with PROM. Prediction of these morbidities is an important step in the management of infection associated with PROM. Hence an appropriate and accurate diagnosis of PROM is essential for favorable outcome in pregnancy. ANC cases should be educated regarding regular and timely antenatal checkup. The obstetrician and neonatologist should work as a team to ensure optimal care for mother and neonate.

Keywords- Neonatal, Maternal, APGAR, NICU

INTRODUCTION

Premature rupture of membranes (PROM) is a rupture (breaking open) of the membranes (amniotic sac) before labor begins. If PROM occurs before 37 weeks of pregnancy, it is called preterm premature rupture of membranes (PPROM). PROM occurs in about 8 to 10 percent of all pregnancies. PPRM (before 37 weeks) accounts for one fourth to one third of all preterm births.¹

Maternal morbidities are found in terms of chorioamnionitis which leads to endometritis, puerperal pyrexia, wound infection and placental abruption. Further, consequences may increase due to obstetric interventions in terms of instrumental deliveries and caesarean sections. It may be a result of fetal distress, dry labor or incoordinate uterine actions.²

Neonatal morbidities are mainly due to infection. Umbilical cord compression and cord prolapse may occur in PROM. PROM is associated with 20% of neonatal deaths. Neonatal complications include early onset neonatal infection, birth asphyxia, hyperbilirubinemia, late onset sepsis, congenital malformations and congenital pneumonia, bronchopulmonary dysplasia. Close monitoring with timely intervention and good neonatal set up can contribute significantly to reduce fetomaternal morbidities and mortalities.³

MATERIALS AND METHODS

The present prospective study was conducted in SHKBMC, Jhalawar Medical College, Jhalawar from 0.8.01.2021 to 08.01.2022. The cases were selected from labour room who were admitted due to complaining of leaking per vagina.

Study Design

This study is a hospital based prospective study. The study approved by the institutional ethics committee for the start of the study.

Study Population

Pregnant woman at term pregnancy (37-42 wks) presenting with PROM admitted in labour room in SHKBMC of Jhalawar Medical College, Jhalawar.

Inclusion criteria

1. Singleton pregnancy between 37-42 weeks of gestation.
2. Primi and multigravida
3. Age group 18-40 yrs
4. Confirmed cases of leaking with or without membrane.
 - a) Leaking from cervix confirmed by speculum examination
 - b) H/o leaking per vaginam

c) Cervix dilatation <3 cm

Exclusion criteria

1. Multiple gestation
2. Maternal complications interereng with active management of PROM like previous LSCS, CPD, APH.

Statistical Analysis

Suitable tests of significance were applied and p-values less than 0.05 was considered significant.

RESULTS

Table 1. General characteristics (n=160)

Mean age in yrs		22.13±3.26 yrs
Primi gravida: Multi gravida		83 : 77
Latent period	0-12 hrs	98(61.25%)
	12-24 hrs	46(28.50%)
	>24 hrs	16(10.00%)
Vaginal delivery: LSCS		92:68
Birth weight in kg	<2.0	27(16.88%)
	2.0-2.5	79(49.38%)
	>2.5	54(33.75%)
NICU admission (Yes:no)		32:128
Neonatal complication	No complications	122(76.25%)
	RDS	21(13.13%)
	Septicemia	10((6.25%)
	Jaundice	6(3.75%)
	IVH	4(2.50%)
APGAR score	1 mint	7.56±1.02
	5 mint	8.50±1.13
Neonatal mortality		9(5.63%)
Maternal outcome	No complications	129(80.63%)
	Chorioamnionitis	13(8.13%)
	Abruption	6(3.75%)
	Puerperal pyrexia	9(5.63%)
	Wound infection	2(1.25%)

Among the selected cases, PROM was noted in 4 (2.50%) mothers in the age group of <20 years, 73 (46.53%) mothers in the age group of 21-25 years, 55 (34.38%) mothers were in the age group of 26-30 years, and 8 (5.00%) mothers above 30 years of age. 83 cases were primigravida and 77 cases were multigravida. 61.25% (98 cases) of my study population had delivery within 12 hours of membrane rupture. Only 10.00% (16 cases) had a latent phase of

>24 hrs. The rest of 28.5% (46 cases) delivered within 12-24 hours. 42.50% cases delivered by LSCS and 57.50% cases were delivered by normal vaginal delivery. 79 patients (49.38%) delivered babies whose birth weight was between 2-2.5 kg 54 patients (33.75%) and 27 patients (16.88%) delivered babies of >2.5 kg and <2.0 kg birth weights respectively. No maternal complications were seen in 129 cases (80.63%) of PROM. Chorioamnionitis (8.13%) was the most common maternal complication followed by puerperal pyrexia (5.63%) and abruption each contributing to 3.75%. Babies born to 38 mothers had NICU admission. Almost 76.25% of the newborn had no complications. 13.13% suffered from respiratory distress syndrome, 6.25% had septicemia, 3.75% suffered from septicemia and 2.50% had intraventricular hemorrhage. Mean APGAR score at 1 min was 7.56 ± 1.02 and at 5 min. was 8.50 ± 1.13 . Neonatal mortality was 5.63%.

DISCUSSION

In our study 42.50% cases delivered by LSCS and 57.50% cases were delivered by normal vaginal delivery.

Vaishnav J et al, found no correlation in mode of delivery and PROM.⁴ They noted 21.21% LSCS rate in cases and 18.18% LSCS rate in controls. Revathi V et al, in a study noted a fourfold higher caesarean section rate in term PROM cases, the rate being 29%.⁶ Comparable results were noted by Shrestha SR et al i.e., 27% and 30% in Kodkany et al.^{5,6} Kadikar et al observed that in term PROM, 33 cases had vaginal delivery (48%), 28 cases had cesarean section (41%) and 8 (11%) cases had instrumental delivery.⁷ This study results were comparable to study of Revathi V et al,⁸ Shrestha SR et al, Kodkany et al and Kadikar et al⁵⁻⁷ Higher rates of caesarean section were mainly observed in patients with PROM due to immediate induction given to these patients which resulted in increased operative delivery.

In our study chorioamnionitis (8.13%) was the most common maternal complication followed by puerperal pyrexia (5.63%) and abruption each contributing to 3.75%. Similar results were reported by Devi A et al and Singhal P et al wherein study subjects had 20.19% and 17.5% febrile morbidity respectively.⁹⁻¹⁰ Revathi V et al⁸ noted 22% mothers with term PROM had puerperal fever. Lalwani A et al reported 5.3% incidence of febrile morbidity in term PROM. Kadikar et al,⁷ reported 2% cases having puerperal fever. Wound infection was seen in 4% cases as compared to only 1% in the control group. Wound infection in terms of episiotomy and abdominal wound infection gaping was reported. 2.3% of patients had wound infection in the study by Revathi V et al⁸ noted 14% incidence of wound infection. 6 Wound infection rates in this study corroborated with the study by Kadikar et al⁷ study (~3%). 4 Chorioamnionitis is an important and peculiar sequelae of PROM. It is a grave complication of PROM where the mother has to be treated aggressively with broad spectrum antibiotics and pregnancy has to be terminated immediately.

In our study 79 patients (49.38%) delivered babies whose birth weight was between 2-2.5 kg 54 patients (33.75%) and 27 patients (16.88%) delivered babies of >2.5 kg and <2.0 kg birth weights respectively. This result corresponded with reports by Eleje et al. and Idrisa et al. in

Nnewi and Maiduguri respectively.^{11,12} This could also explain why less than one-third of the babies needed NICU admission.

CONCLUSION

In the present study we concluded that maternal morbidity and neonatal morbidity was associated with PROM. Prediction of these morbidities is an important step in the management of infection associated with PROM. Hence an appropriate and accurate diagnosis of PROM is essential for favorable outcome in pregnancy. ANC cases should be educated regarding regular and timely antenatal checkup. The obstetrician and neonatologist should work as a team to ensure optimal care for mother and neonate.

REFERNCES

1. ACOG Committee on practices Bulletins –Obstetrics. ACOG practice Bulletin No. 80: premature rupture of membranes. Clinical management guidelines for Obstetrician–gynecologists *Obstet Gynecol* 2007;109:1007-10
2. J Liu ZC Feng J Wu The incidence rate of premature rupture of membrane and its influence on fetal-neonatal health: A report from Mainland China *J Trop Pediatr* 2010;56:136-42 doi: 10.1093/tropej/fmp051
3. Z Chhangte A Vaz MR Singh SC Singh Fetomaternal outcomes in premature rupture of membranes at term: a case control study 2018;17:31-41
4. Vaishnav J, Vaishnav G. A study of foeto-maternal outcome in patients with prelabour rupture of membranes at term (>37) weeks. *Med Sci.* 2012;1(2):118-24
5. Shrestha SR, Sharma P. Fetal outcome of pre-labor rupture of membranes. *Nepal J Obstet Gynaecol.* 2006;1(2):19-24
6. Kodkany, Telang. Premature rupture of membranes, a study of 100 cases. *J Obstet Gynecol India.* 1991;41:492
7. Kadikar GK, Gandhi MR, Damani SK. A study of fetomaternal outcome in cases of premature rupture of membrane. *IJSR.* 2014;3(3):299-301.
8. Revathi V, Sowjanya R, Lavanya S. Maternal and perinatal outcome in premature rupture of membranes at term. *IOSR-JDMS.* 2015;14:12-5.
9. Anjana D, Reddi R. Premature rupture of membrane: A clinical study. *J Obst Gynecol India.* 1996;46:63-76.
10. Singhal P, Singhal AK. Fetomaternal outcome in premature rupture of membranes. *Obst Gynae Today.* 2002;10:585
11. Eleje GU, Ezebialu IU, Umeobika JC, et al. Pre labour rupture of membranes at term: A review of management in a Health care institution. *Afrimedical Journal* 2010;1(2):10-14
12. Idrisa A, Pius S, Bukar M. Maternal and neonatal outcomes in premature rupture of membranes at university of Maiduguri teaching hospital, Maiduguri, North Eastern Nigeria. *Trop J Obstet Gynaecol* 2019; 36:15-20.